

REMARKS

Claims 1, 2, 4, 6 through 13, 15, 17 through 23, 25, 27 through 33, 35, 37 through 45, 47, 49 through 51, 53, 55, 56, and 76 through 84 are currently pending in the application.

Claims 1, 2, 4, 6 through 13, 15, 17 through 23, 25, 27 through 33, 35, 37 through 45, 47, 49 through 51, 53, 55, and 56 stand rejected.

Claims 76 through 84 are allowed pending grammatical corrections to claims 76 and 77.

Applicants propose to amend independent claims 1, 12, 23, and 51, and respectfully request reconsideration of the application as proposed to be amended herein.

Claim Objections

Claims 76 and 77 stand objected to because of writing informalities. Claims 76 and 77 have been amended above, as required by the Examiner.

35 U.S.C. § 102(e) Anticipation Rejections

Anticipation Rejection Based on U.S. Patent 6,342,434 to Miyamoto et al.

Claims 1, 2, 4, 6, 9, 23, 25, 27, 30, 33, 35, 37, 40, 43, 44, 45, 47, 49, 51, 53, and 55 stand rejected under 35 U.S.C. § 102(e) as being anticipated by Miyamoto et al. (U.S. Patent 6,342,434). Applicants respectfully traverse this rejection, as hereinafter set forth.

Applicants assert that a claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference. *Verdegaal Brothers v. Union Oil Co. of California*, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). The identical invention must be shown in as complete detail as is contained in the claim. *Richardson v. Suzuki Motor Co.*, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989).

Applicants assert that the Miyamoto et al reference does not and cannot anticipate under 35 U.S.C. § 102 the presently claimed inventions of presently amended independent claims 1, 12, 12, 33, 45, and 51 because the Miyamoto et al. reference does not identically describe, either expressly or inherently, all the elements of the claimed inventions in as complete detail as is contained in the claims.

Applicants assert that Miyamoto et al. does not anticipate under 35 U.S.C. §102 the aforementioned claims under 35 U.S.C. § 102 because Miyamoto et al. requires that the adhesive

be in contact with the “actual” surface of the wafer. “[T]he thickness of the adhesive member provided on the base should be equal to or larger than the height of the bumps.” Column 3, Lines 40-42. “If the thickness of the adhesive member provided on the base is made equal to or larger than the height of the bumps formed on the semiconductor wafer, the entire carrier is made in intimate contact with the semiconductor wafer” Column 5, Lines 28-32. As is discussed below in the regarding the rejection of some claims under 35 U.S.C. § 103, Miyamoto et al. discloses the purpose for the “intimate contact” between the wafer and the adhesive.

Applicants’ presently claimed inventions of independent claims 1, 12, 23, 33, 45, and 51 do not require contact with the surface of the wafer as Miyamoto et al. does. Applicants presently claimed inventions of independent claims 1, 12, 23, 33, 45, and 51 require the adhesive to contact a portion of the bumps on the wafer, not the surface of the wafer. Clearly, the Applicants’ invention and the invention disclosed in Miyamoto et al. are not “identical,” and every element of the Applicants’ claims, in light of the specification, are not expressly or inherently described. Therefore, none of the Applicants’ claims are anticipated by Miyamoto et al. under 35 U.S.C. § 102. Applicants request the allowance of claims 1, 2, 4, 6, 9, 23, 25, 27, 30, 33, 35, 37, 40, 43, 44, 45, 47, 49, 51, 53 and 55 and the case passed for issue.

35 U.S.C. § 103(a) Obviousness Rejections

Obviousness Rejection Based on U.S. Patent No. 6,342,434 to Miyamoto et al.

Claims 7 through 13, 15, 17 through 22, 28 through 32, 38 through 42, 50, and 56 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Miyamoto et al. (U.S. Patent No. 6,342,434). Applicants respectfully traverse this rejection, as hereinafter set forth.

M.P.E.P. 706.02(j) sets forth the standard for a Section 103(a) rejection:

To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or combine reference teachings. Second, there must be a reasonable expectation of success. Finally, **the prior art reference (or references when combined) must teach or suggest all the claim limitations.** The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, and not based on applicant’s disclosure. *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991). (Emphasis added).

Miyamoto et al. clearly teaches that a thick adhesive is needed to prevent the warping of the wafer during thinning from the release of the internal stresses inherent in the passivation film. Column 4, Lines 53-60. Miyamoto et al. teaches that the adhesive needs to be in full contact with the surface of the wafer. Column 5, Lines 28-32. This allows the adhesive or resin to act on the passivation film. Column 18, Lines 14-18. The adhesive or resin and the rigidity of the backing combine to “suppress the release of stress in the passivation film.” Column 18, Lines 38-45. Otherwise, the “wafer would be warped when thinned.” Column 18, Lines 29-34. Miyamoto et al. clearly teaches away from the adhesive not being required to contact the bumps of the wafer, because Miyamoto et al. suggests the Applicants’ method would result in warping of the wafer. There is no suggestion or teaching in Miyamoto et al. of all of the claim limitations of the Applicants’ invention and therefore a *prima facie* case of obviousness under 35 U.S.C. § 103 regarding the claimed invention has not been established.

Miyamoto et al. may teach that warping due to the release of stress in the passivation layer is only an issue when grinding below about 12 mils, and therefore it is possible that Miyamoto et al. only requires “intimate contact” when thinning below 12 mils. Column 1, Lines 33-51. Therefore, it could be construed that “intimate contact” is not required when grinding above about 12 mils. However, that is essentially a moot point because wafers are generally not bumped until the wafer is thinned to about 12 mils.

Applicants respectfully submit that claim 12 is allowable and that all of the dependent claims therefrom are allowable, as well as, all of the dependent claims from the other independent claims that were not rejected for obviousness under 35 U.S.C. § 103. Applicants assert that claims 7 through 13, 15, 17 through 22, 28 through 32, 38 through 42, 50 and 56 are clearly allowable over the cited prior art.

Applicants request entry of this amendment for the following reasons:

The amendment is timely filed.

The amendment places the application in condition for allowance.

The amendment does not require any further search or consideration.

Allowable Subject Matter

Claims 76 through 84 are allowed pending the grammatical corrections required by the Examiner to Claims 76 and 77.

CONCLUSION

Claims 1, 2, 4, 6 through 13, 15, 17 through 23, 25, 27 through 33, 35, 37 through 45, 47, 49 through 51, 53, 55, and 56 are believed to be in condition for allowance, and an early notice thereof is respectfully solicited. Should the Examiner determine that additional issues remain which might be resolved by a telephone conference, he is respectfully invited to contact Applicants' undersigned attorney.

Respectfully submitted,



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